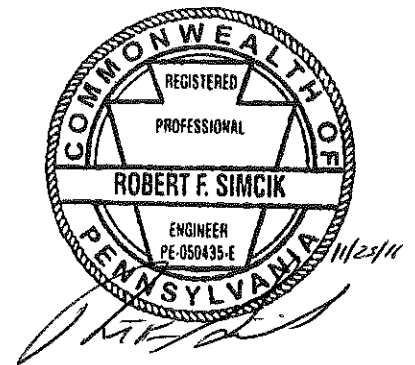


ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT

SUNOCO PENNSYLVANIA PIPELINE PROJECT

**BLAIR, HUNTINGDON, CUMBERLAND, YORK, DAUPHIN, LEBANON AND BERKS COUNTIES,
PENNSYLVANIA**



ACT 167 PLAN TRACKING TABLE
Pennsylvania Pipeline Project
South Central Region
Permanent Above Ground Facilities

| County | Countywide Act 167 Plan? | Name of Adopted Plan | Date Approved | Municipalities That Have Enacted the Plan | Design is Consistent with Which Agency |
|-------------------|---------------------------------|--|----------------------|--|--|
| Blair | No | Beaverdam Branch Watershed Act 167 Stormwater Management Plan | May 8, 2000 | Allegheny, Blair, Frankstown, Juniata | PADEP SWM Manual and Beaverdam Branch Watershed Act 167 |
| Huntingdon | No | County follows PA Ch. 102 State Regulations | NA | All Counties | PADEP SWM Manual |
| Juniata | No | County follows PA Ch. 102 State Regulations | NA | NA | PADEP SWM Manual |
| Perry | No | Perry County Subdivision and Land Development Ordinance w/ Stormwater Requirements | 2008 | Jackson and Toboyne | PADEP SWM Manual |
| Cumberland | Yes | Cumberland County Stormwater Management Plan | September 9, 2010 | Lower Allen, Lower Frankford, Lower Mifflin, Middlesex, North Middleton, Silver Spring, Upper Allen, Upper Frankford | PADEP SWM Manual and Cumberland County Stormwater Management Plan |
| York | Yes | York County Integrated Water Resource Plan | March 2011 | Fairview | PADEP SWM Manual |
| Dauphin | Yes | Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan | June 25, 2010 | Conewago (12/8/10), Derry & Highspire (12/21/10), Londonderry (12/6/10), Lower Swatara (12/15/10), and Middletown (NA) | PADEP SWM Manual and Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan |
| Lebanon | Yes | Lebanon County Stormwater Management Ordinance | December 5, 2013 | All | PADEP SWM Manual and Lebanon County Stormwater Mangement Ordinance |
| Lancaster | Yes | Lancaster County Integrated Water Resources Plan | April 2013 | Clay, West Cocalico | PADEP SWM Manual |
| Berks | No | Schuykill River Watershed Act 167 Plan | June 2007 | Spring, Brecknock, Robeson, New Morgan, Caennarvon, Cumru | PADEP SWM Manual and Schuykill River Watershed Act 167 Plan |
| | | Conestoga River Watershed Act 167 Plan | September 6, 2005 | Brecknock (3/7/2006), Caernarvon (3/14/2006), New Morgan (5/8/2007), Robeson (2/15/2005), Spring (3/24/2008) | |
| | | Cocalico Creek Watershed Act 167 Plan | March 13, 2003 | South Heidelberg (NA), Spring (3/24/2008) | |

ACT 167 PLAN TRACKING TABLE
Pennsylvania Pipeline Project
South Central Region
Site Restoration Plan

| County | Countywide Act 167 Plan? | Name of Adopted Plan | Date Approved | Municipalities That Have Enacted the Plan | Design is Consistent with Which Agency |
|-------------------|---------------------------------|--|----------------------|--|--|
| Blair | No | Beaverdam Branch Watershed Act 167 Stormwater Management Plan | May 8, 2000 | Allegheny, Blair, Frankstown, Juniata | PADEP SWM Manual and Beaverdam Branch Watershed Act 167 |
| Huntingdon | No | County follows PA Ch. 102 State Regulations | NA | All Counties | PADEP SWM Manual |
| Juniata | No | County follows PA Ch. 102 State Regulations | NA | NA | PADEP SWM Manual |
| Perry | No | Perry County Subdivision and Land Development Ordinance w/ Stormwater Requirements | 2008 | Jackson and Toboyne | PADEP SWM Manual |
| Cumberland | Yes | Cumberland County Stormwater Management Plan | September 9, 2010 | Lower Allen, Lower Frankford, Lower Mifflin, Middlesex, North Middleton, Silver Spring, Upper Allen, Upper Frankford | PADEP SWM Manual and Cumberland County Stormwater Management Plan |
| York | Yes | York County Integrated Water Resource Plan | March 2011 | Fairview | PADEP SWM Manual and York County IWRP |
| Dauphin | Yes | Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan | June 25, 2010 | Conewago (12/8/10), Derry & Highspire (12/21/10), Londonderry (12/6/10), Lower Swatara (12/15/10), and Middletown (NA) | PADEP SWM Manual and Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan |
| Lebanon | Yes | Lebanon County Stormwater Management Ordinance | December 5, 2013 | All | PADEP SWM Manual and Lebanon County SM Ordinance |
| Lancaster | Yes | Lancaster County Integrated Water Resources Plan | April 2013 | Clay, West Cocalico | PADEP SWM Manual and Lancaster County IWRP |
| Berks | No | Schuylkill River Watershed Act 167 Plan | June 2007 | Spring, Brecknock, Robeson, New Morgan, Caennarvon, Cumru | PADEP SWM Manual and all associated Watershed Act 167 Plans |
| | | Conestoga River Watershed Act 167 Plan | September 6, 2005 | Brecknock (3/7/2006), Caernarvon (3/14/2006), New Morgan (5/8/2007), Robeson (2/15/2005), Spring (3/24/2008) | |
| | | Cocalico Creek Watershed Act 167 Plan | March 13, 2003 | South Heidelberg (NA), Spring (3/24/2008) | |

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR BLAIR COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The pipeline will traverse through 5 townships in Blair County: Allegheny, Blair, Frankstown, Juniata, and Woodbury Townships. The County of Blair does not currently have a Countywide Act 167 Stormwater Management Plan; instead, the county is subdivided into Watershed Study Areas. Currently, Allegheny, Blair, Frankstown, and Juniata Townships have adopted the Beaverdam Branch Watershed Act 167 Stormwater Management Plan, which was approved on May 8, 2000. Since the Beaverdam Branch Juniata River Act 167 Plan was approved before 2005, the Pennsylvania Department of Environmental Protection (PADEP) does not require consistency with the Act 167 Plan and the plan is not applicable when developing the Post Construction Stormwater Management Plan (PCSM).

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 230 acres in Blair County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 4 permanent access roads, 4 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Blair County, Pennsylvania, the Pennsylvania Pipeline Project traverses 23.5 linear miles through the municipalities of Allegheny, Blair, Frankstown, Juniata, and Woodbury and spans the Cresson, Hollidaysburg, Frankstown, and Williamsburg USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), warm water fisheries (WWF), trout stock fisheries (TSF), and cold water

fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Blair Run (CWF), Blair Run (CWF), UNT to Poplar Run (CWF), Dry Run (WWF), UNT to Dry Run (WWF), UNT to Blair Gap Run (TSF), UNT to Beaverdam Branch (WWF), UNT to Frankstown Branch Juniata River (WWF), Frankstown Branch Juniata River (WWF), UNT to Oldtown Run (WWF), Oldtown Run (WWF), UNT to Robinson Run (WWF), Juniata River (WWF), UNT to Juniata River (WWF), UNT to Piney Creek (HQ-CWF), Piney Creek (HQ-CWF), and Clover Creek (HQ-CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better.

Within Blair County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the PADEP Chapter 102 regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 5 permanent block valve pads and associated access roads installed in Blair County at Valley Forge Road, Charger Highway, Locke Mountain Road, Juniata Valley Road, and High Street. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the block valve sites and access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by infiltration berms or slow release trenches downslope of the proposed access roads. The infiltration berms or slow release trenches will be constructed in accordance with the PA Stormwater BMP Manual. The proposed infiltration berms or slow release trenches have been sized to provide at least the required volume storage to eliminate the difference between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration facilities shall be inspected regularly to ensure that they are infiltrating properly and not clogged with sediment. Vegetation over the proposed infiltration berms shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

Blair County does not have a county-wide Act 167 plan adopted. However, the block valve sites at Valley Forge Road, Charger Highway, Locke Mountain Road, and Juniata Valley Road are located in townships that have enacted the Beaverdam Branch Watershed Act 167 Stormwater Management Plan. This plan requires that the post-development runoff rate be less than or equal to the pre-development rate. The PCSM design at the above listed block valve sites have been designed for consistency with the Beaverdam Branch Watershed approved Act 167 Plan.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum); as necessary, provide additional peak rate control as required by applicable and approved Act 167 plan. The Beaverdam Branch Watershed Act 167 Plan enacted by several townships have rate requirements that mirror PADEP's requirements. Therefore, no additional peak rate control is required under the Act 167 Plan.

Peak discharge rates will be managed utilizing infiltration berms and slow release trenches to manage the 2- through 100-year peak rate increases. These BMPs will also help increase the time of concentration for the drainage areas encompassing each block valve site.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at each of the block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for block valves located in and out of the Townships with an enacted Act 167 Plan.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads.

The construction, restoration and stormwater management practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas associated with the project, excluding the permanent access roads and block valve pads, will be restored to a meadow in good condition. Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

Blair County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. However, some townships have enacted the Beaverdam Branch Watershed Act 167 Stormwater Management Plan. By following both those plan requirements and the requirements of PADEP's 25 Pa Code § 102.8(n), the Sunoco Pipeline project meets the criteria for Blair County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR HUNTINGDON COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The pipeline will traverse through four townships in Huntingdon County: Penn, Shirley, Tell, and Union Townships. The County of Huntingdon does not have an Act 167 Stormwater Management Plan; therefore, the county has adopted the Pennsylvania Department of Environmental Protection Chapter 102 Regulations as their county-wide stormwater guidance.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 270 acres in Huntingdon County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 5 permanent access roads, 5 block valve pads, 1 block valve at an existing SPLP pump station, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Huntingdon County, Pennsylvania, the Pennsylvania Pipeline Project traverses approximately 26.9 miles through the municipalities of Penn, Shirley, Tell, and Union Townships and spans the Cassville, Entriken, Huntingdon, Williamsburg, Butler Knob, Aughwick, and Blairs Mills USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), warm water fisheries (WWF), trout stock fisheries (TSF), and cold water fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Raystown Branch Juniata River (WWF), James Creek (WWF), UNT to James Creek (WWF), UNT to Raystown Lake (WWF), UNT to Little Trough Creek (TSF), Little Trough Creek (TSF), UNT to Smith Run (TSF), Smith Run (TSF), UNT to Hares Valley Creek (TSF), Hares Valley Creek (TSF), Scrub Run (HQ-CWF), UNT to Scrub Run (HQ-CWF), Singers

Gap Run (HQ-CWF), UNT to Singers Gap Run (HQ-CWF), Hill Valley Creek (HQ-CWF), UNT to Hill Valley Creek (HQ-CWF), UNT to Juniata River (HQ-CWF), UNT to Aughwick Creek (TSF), Aughwick Creek (TSF), UNT to Fort Run (CWF), Fort Run (CWF), UNT to Blacklog Creek (HQ-CWF), Blacklog Creek (HQ-CWF), George Creek (CWF), and UNT to George Creek (CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better.

Within Huntingdon County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT AND ACT 167 COMPLIANCE

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the PADEP Chapter 102 Regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 5 permanent block valve pads and associated access roads installed in Huntingdon County at Raystown Road, Seven Points Loop, Happy Hills Road, Hares Valley Road, and Shade Valley Road.

There will also be expansion activities at the Mt. Union Pump Station. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the block valve sites and access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of infiltration berms and infiltration trenches downslope of the proposed block valve sites and access roads. The proposed infiltration berms and infiltration trenches have been sized to provide at least the required volume storage to eliminate the difference between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring all disturbed areas along the pipeline corridor to a meadow condition, the project will not result in increased stormwater runoff rate or volume. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed block valve pad and access road at Seven Points Loop is proposed to be vegetated to minimize ROW impacts. As a result, stormwater runoff rate and volume requirements are met at this site per PADEP's 25 Pa Code § 102.8(n).

The proposed, permanent access road which will remain as a permanent gravel drive shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration berms and infiltration trenches shall be inspected regularly to ensure they are infiltrating properly and not clogged with sediment. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

Huntingdon County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. By following the requirements of PADEP's 25 Pa Code § 102.8(n), the Sunoco Pipeline project meets the criteria for Huntingdon County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR JUNIATA COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The pipeline will traverse through one township in Juniata County: Lack Township. The County of Juniata does not have an Act 167 Stormwater Management Plan; therefore, the county follows the Pennsylvania Department of Environmental Protection Chapter 102 Regulations.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 31 acres in Juniata County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Juniata County, Pennsylvania, the Pennsylvania Pipeline Project traverses 3.0 linear miles through the Municipality of Lack and spans the Blairs Mills USGS Quadrangle. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as cold water fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Tuscarora Creek (CWF), UNT to George Creek (CWF), George Creek (CWF), and Tuscarora Creek (CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Juniata County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT AND ACT 167 COMPLIANCE

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Pennsylvania Chapter 102 Regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume. Additional permanent access roads and valve sites are not proposed in Juniata County for the installation and operation of the pipeline.

Juniata County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. By following the requirements of PADEP's 25 Pa Code § 102.8(n), the Sunoco Pipeline project meets the criteria for Juniata County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR PERRY COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Perry County Subdivision and Land Development Ordinance with Stormwater Management requirements and the Pennsylvania Pipeline Project. The pipeline will traverse through two townships in Perry County: Jackson and Toboyne. The County of Perry developed the Subdivision and Land Development Ordinance in 2008 and added the Stormwater Management requirements mid-plan process. Perry County noted that their general Stormwater Management Ordinance is not in compliance with Act 167. Jackson and Toboyne Townships both follow the county Subdivision and Land Development Ordinance containing Stormwater Management requirements.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of block valve pad, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 118 acres in Perry County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of, a block valve at an existing SPLPS pump station, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Perry County, Pennsylvania, the Pennsylvania Pipeline Project traverses 10.8 miles through the municipalities of Jackson and Toboyne and spans the Blain, Blairs Mills, Andersonburg, Newburg, and Newville USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), cold water fisheries (CWF), and exceptional value (EV) under PA Code

25 Chapter 93 including Horse Valley Run (HQ-CWF), UNT to Horse Valley Run (HQ-CWF), Schaeffer Run (HQ-CWF), UNT to Schaeffer Run (HQ-CWF), Shermans Creek (HQ-CWF), UNT to Shermans Creek (HQ-CWF), South Branch Laurel Run (HQ-CWF), UNT to South Branch Laurel Run (HQ-CWF), UNT to Laurel Run (HQ-CWF), UNT to Shultz Creek (HQ-CWF), Shultz Creek (HQ-CWF), Laurel Run (EV), and Bull Run (HQ-CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent gravel pad. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better.

Within Perry County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the PADEP Chapter 102 Regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume. There will be expansion activities at the Doylesburg Pump Station. The proposed block valve pad will remain as a permanent gravel after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the gravel pad that drain to the nearest

streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed pad as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of infiltration filters with pipe storage downslope of the proposed access roads. The proposed soil infiltration berms have been sized to provide at least the required volume storage to eliminate the different between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring all disturbed areas along the pipeline corridor to a meadow condition, the project will not result in increased stormwater runoff rate or volume. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration filters with pipe storage shall be inspected regularly to ensure they are infiltrating properly and not clogged with sediment. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum); as necessary, provide additional peak rate control as required by applicable and approved Act 167 plan.
- There are no additional peak rate control required under the Act 167 Plan.

The proposed permanent facilities will utilize infiltration filters with pipe storage to manage the two-year through 100-year peak rate increases.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at the proposed pump station and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for the proposed facilities.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads and block valve sites.

Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

By following the requirements of PADEP's 25 Pa Code § 102.8(n), the Sunoco Pipeline project meets the criteria for Perry County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR CUMBERLAND COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Cumberland County Stormwater Management Plan and the Pennsylvania Pipeline Project. The pipeline will traverse through nine townships in Cumberland County: Lower Allen, Lower Frankford, Lower Mifflin, Middlesex, Monroe, North Middleton, Silver Spring, Upper Allen, and Upper Frankford. The County of Cumberland developed the County Stormwater Management Plan in 2010. Lower Frankford, Middlesex, North Middleton, and Upper Frankford Townships have incorporated stormwater management regulations into their Subdivision and Land Development Ordinances. Lower Allen, Upper Allen, and Silver Spring Townships have implemented Act 167 compliant stand-alone stormwater ordinances, Monroe Township has adopted a non-Act 167 stand-alone ordinance, and Lower Mifflin Township has no stormwater management regulations of any capacity. However, all municipalities will be required to adopt the model stormwater management ordinance developed as part of the 2010 Cumberland County Stormwater Management Plan.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 306 acres in Cumberland County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 4 permanent access roads, 6 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration/post construction stormwater management.

In Cumberland County, Pennsylvania, the Pennsylvania Pipeline Project traverses 32.0 linear miles through the municipalities of Lower Allen, Lower Frankford, Lower Mifflin, Middlesex, Monroe, North Middleton, Silver Spring, Upper Allen, and Upper Frankford and spans the Andersonburg, Newville, Landisburg, Plainfield, Carlisle, Shermans Dale, Mechanicsburg, Wetzville, and Lemoyne USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and

forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), trout stock fisheries (TSF), and cold water fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Double Gap Creek (HQ-CWF), Doubling Gap Creek (HQ-CWF), Rock Run (WWF), UNT to Rock Run (WWF), UNT to Conodoguinet Creek (WWF), UNT to Bloser Creek (WWF), Bloser Creek (WWF), Locust Creek (WWF), UNT to Locust Creek (WWF), UNT to Opossum Creek (HQ-CWF), Opossum Creek (HQ-CWF), UNT to Meetinghouse Run (WWF), Meetinghouse Run (WWF), Conodoguinet Creek (WWF), Letort Spring Run (CWF), UNT to Letort Spring Run (CWF), Hogestown Run (CWF), Trindle Spring Run (CWF), UNT to Cedar Run (CWF), Cedar Run (CWF), UNT to Yellow Breeches Creek (CWF), and Yellow Breeches Creek (CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Cumberland County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Cumberland County Stormwater Management Plan of 2010, as well as provisions of the PADEP Chapter 102 Regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 4 permanent block valve pads and associated access roads installed in Cumberland County at Creek Road, Wolf Bridge Road, West Trindle Road and Arcona Road. In addition, there will be an expansion at the existing Plainfield Pump Station. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the block valve sites and access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing infiltration berms, infiltration trenches, or slow release trenches downslope of the proposed block valve sites and access roads. The infiltration berms, infiltration trenches, and slow release trenches will be constructed in accordance with the PA Stormwater BMP Manual. The proposed infiltration berms, infiltration trenches, and slow release trenches have been sized to provide at least the required volume storage to eliminate the difference between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring all disturbed areas along the pipeline corridor to a meadow condition, the project will not result in increased stormwater runoff rate or volume. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. Maintenance of the infiltration berms, infiltration trenches, and slow release trench areas will consist of biannual inspections. Additional soil and compost mixture will be applied to the infiltration berms, infiltration trench, and slow release trench areas as needed to maintain an adequate thickness to meet the volume storage capacity, and to ensure vegetation is established. All stormwater management BMPs shall be inspected regularly to ensure it is infiltrating properly and not clogged with sediment. Vegetation over the berms shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

Cumberland County has an approved Act 167 Stormwater Management Plan. This plan does contain peak discharge release rate maps that govern rate increase through various watersheds. All other design standards within Cumberland County's approved Act 167 Plan are consistent with the requirements in PADEP's Stormwater BMP Manual.

A summary of the technical standards for stormwater management in the Plan follows.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum).
- Cumberland County's approved Act 167 plan establishes release rate requirements for various watersheds throughout the county. The Creek Road, Wolf Bridge, and West Trindle block valve sites are located in the Lower Conodoguinet Creek and Conodoguinet Creek watersheds, which both have 100% release rates.

The proposed permanent facilities will utilize infiltration berms, infiltration trenches and slow release trenches to manage the two-year through 100-year peak rate increases. All proposed permanent facilities meet the associated release rate requirements. These BMPs will also help to increase the time of concentration for the drainage area encompassing the block valve sites.

The pipeline ROW will be maintained in meadow condition. Therefore, peak discharge rate standards do not apply.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at each of the block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for block valves.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads and block valve sites.

Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection

standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

By following the requirements of PADEP's 25 Pa Code § 102.8(n) and Cumberland County's approved Act 167 Stormwater Management Plan, the Sunoco Pipeline project meets the criteria for Cumberland County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR YORK COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the York County Integrated Water Resource Plan (IWRP) and the Pennsylvania Pipeline Project. The pipeline will traverse through one township in York County: Fairview. The County of York developed the IWRP, which serves as the County's "Stormwater Management Plan" as required by the Pennsylvania Stormwater Management Act (Act 167), in March of 2011. All townships are required to adopt the county-wide IWRP.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 69 acres in York County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 1 permanent access roads, 1 block valve pad, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In York County, Pennsylvania, the Pennsylvania Pipeline Project traverses 6.3 linear miles through Fairview Township and spans the Lemoyne and Steelton USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF) and cold water fisheries (CWF) under PA Code 25 Chapter 93 including Yellow Breeches Creek (CWF), UNT to Yellow Breeches Creek (CWF), UNT to Marsh Run (WWF), and UNT to Susquehanna River (WWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within York County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT AND ACT 167 COMPLIANCE

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the York County IWRP and the provisions of the Pennsylvania Chapter 102 Regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

One block valve site and associated access road will be located in York County. This site will utilize an existing block valve site that Sunoco owns. No gravel or other improvements are proposed at the existing block valve site.

By following the requirements of PADEP's 25 Pa Code § 102.8(n) and the York County IWRP, the Sunoco Pipeline project meets the criteria for York County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR DAUPHIN COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan and the Pennsylvania Pipeline Project. The pipeline will traverse through six townships in Dauphin County: Conewago, Derry, Highspire, Londonderry, Lower Swatara, and Middletown Townships. The County of Dauphin developed the Countywide Act 167 Stormwater Management Plans, Phase 1 and Phase 2, which was adopted by the entire County in April of 2010.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 131 acres in Dauphin County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 3 permanent access roads, 6 temporary access roads, 3 block valve pads, a pump/substations station, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Dauphin County, Pennsylvania, the Pennsylvania Pipeline Project traverses 12.0 linear miles through the municipalities of Conewago, Derry, Highspire, Londonderry, Lower Swatara, and Middletown and spans the Steelton, Middletown, Elizabethtown, Hershey, and Palmyra USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF) under PA Code 25 Chapter 93 including Susquehanna River (WWF), UNT to Susquehanna River (WWF), UNT to Lisa Lake (WWF), UNT to Swatara Creek (WWF), Swatara Creek (WWF), Iron Run (WWF), UNT to Iron Run (WWF), and UNT to Spring Creek (WWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Dauphin County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Dauphin Countywide Phase 1 and 2 Watershed Act 167 Stormwater Management Plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 2 permanent block valve pads and associated access roads installed in Dauphin County at North Union Street and Gates Road. There will also be expansion activities at the Middletown Pump Station. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the block valve sites and access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent

access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing infiltration berms and soil amendment areas downslope of the proposed access roads and pads. The infiltration berms and soil amendment areas will be constructed in accordance with the PA Stormwater BMP Manual. The proposed infiltration berms and soil amendment areas have been sized to provide at least the required volume storage to eliminate the difference between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration berms and soil amendment areas shall be inspected regularly to ensure they are infiltrating properly and not clogged with sediment. Vegetation over the berm shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

The PCSM design at both of Dauphin County's proposed permanent facilities have been designed for consistency with Dauphin County's approved Act 167 Plan. By designing in accordance with PADEP's Stormwater BMP Manual, the requirements outlined in Dauphin County's Act 167 Plan will be fulfilled. North Union Street block valve is within an area governed by a 100% release rate, while Gates Road is located in an area without an overall release rate requirement.

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum).
- Dauphin County's approved Act 167 plan establishes release rate requirements for various watersheds throughout the county. The North Union Street block valve site is located in an area with 100% release rate requirements.

The proposed permanent facilities will utilize infiltration berms and soil amendment areas to manage the two-year through 100-year peak rate increases. All proposed permanent facilities meet the associated release rate requirements. These BMPs will also help to increase the time of concentration for the drainage area encompassing the block valve sites.

The pipeline ROW will be maintained in meadow condition. Therefore, peak discharge rate standards do not apply.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at each of the block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for block valves.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads and block valve sites.

Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

By following the requirements of PADEP's 25 Pa Code § 102.8(n) and Dauphin County's approved Act 167 Stormwater Management Plan, the Sunoco Pipeline project meets the criteria for Dauphin County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR LEBANON COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Lebanon County Subdivision and Land Development Plan of 2007 and the Pennsylvania Pipeline Project. The pipeline will traverse through six townships in Lebanon County: South Londonderry, South Annville, West Cornwall, Cornwall, South Lebanon, and Heidelberg. Lebanon County has two approved Act 167 stormwater management plans – Tulpehocken Creek Act 167 Stormwater Management Plan which was adopted on November 30, 2001, and Cocalico Creek Act 167 Stormwater Management Plan which was adopted on October 2, 2002.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 223 acres in Lebanon County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 3 permanent access roads, 1 temporary access road, 4 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Lebanon County, Pennsylvania, the Pennsylvania Pipeline Project traverses 19.8 linear miles through the municipalities of South Londonderry, South Annville, West Cornwall, Cornwall, South Lebanon, and Heidelberg and spans the Elizabethtown, Lebanon, Palmyra, Richland, and Womelsdorf USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF), trout stock fisheries (TSF), and cold water fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Spring Creek (WWF), UNT to Killinger Creek (TSF), UNT

to Buckholder Run (TSF), Buckholder Run (TSF), UNT to Gingrich Run (TSF), Gingrich Run (TSF), Bachman Run (TSF), Beck Creek (TSF), Snitz Creek (TSF), UNT to Snitz Creek (TSF), UNT to Quittapahilla Creek (TSF), UNT to Hammer Creek (CWF), Hammer Creek (CWF), UNT to Middle Creek (WWF), and Middle Creek (WWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the area shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better.

Within Lebanon County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the PADEP Chapter 102 regulations, as well as the Tulpehocken Creek Act 167 Stormwater Management Plan and Cocalico Creek Act 167 Stormwater Management Plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 3 permanent block valve facilities and associated access roads installed in Lebanon County at Schaeffer Road, Sinclair Road and Hopeland Road. The proposed access roads will remain as a

permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the block valve sites and access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of infiltration berms downslope of the proposed access roads. The infiltration berms will be constructed in accordance with the PA Stormwater BMP Manual. The proposed infiltration berms have been sized to provide at least the required volume storage to eliminate the difference between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration berms shall be inspected regularly to ensure they are infiltrating properly and not clogged with sediment. Vegetation over the berms shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

Lebanon County has approved Act 167 Plans for Tulpehocken Creek and Cocalico Creek Watersheds. All three proposed permanent facilities are located within the watersheds that have approved Act 167 plans. By designing in accordance with PADEP's Stormwater BMP Manual, the requirements outlined in Lebanon County's Stormwater Ordinance will be fulfilled.

A summary of the technical standards for stormwater management in the Plan follows.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum); as necessary, provide additional peak rate control as required by applicable and approved Act 167 plan.
- The Cocalico Creek Stormwater Ordinance requires detention facilities to meet 50% release rates where the post-development hydrograph peaks are greater than the pre-development. When BMPs are accounted for, the post-development hydrograph peaks have been reduced from pre-development rates. However, if BMPs are not included, the post-development rates are not less than the pre-development rates. Therefore, the 50% release rate reduction applies.
- The Lebanon County Stormwater Ordinance has recommended specific curve numbers for rate calculations. The rate calculations for this site were determined using the NCRS recommended curve numbers, which follows the requirements set for the in the PADEP manual.

This site will utilize infiltration berms to manage the 2-year through 100-year peak rate increases. The Schaeffer Road block valve site meets the peak discharge rate reduction requirements. However, the Sinclair Road and Hopeland Road block valve sites rate requirements 50% reduction of release rates have not been met. Instead, the sites do meet all PADEP requirements.

The pipeline ROW will be maintained in meadow condition. Therefore, peak discharge rate standards do not apply to the pipeline ROW.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at each of the block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for block valves.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads and block valve sites.

Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

Lebanon County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. However, they do have approved Act 167 plans in Tulpehocken Creek and Cocalico Creek

Watersheds. By following the requirements of PADEP's 25 Pa Code § 102.8(n), the Sunoco Pipeline project meets the criteria for Lebanon County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR LANCASTER COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of *Blueprints, The Water Resources Element of the Lancaster County Comprehensive Plan (Act 247 and 167)* and the Pennsylvania Pipeline Project. The pipeline will traverse through two townships in Lancaster County: Clay and West Cocalico. The County of Lancaster developed the Countywide Integrated Water Resources Plan as their Countywide Act 167 Plan, which was adopted in April of 2013. The Lancaster Countywide Integrated Water Resources Plan incorporates relevant components, including problem areas and release rates from the Cocalico Creek Watershed Management Plan. Both Clay and West Cocalico Townships fall within the Cocalico Creek Watershed and both have adopted the Lancaster County Integrated Water Resources Plan.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 75 acres in Lancaster County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation of 1 permanent access road, 1 block valve, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration/post construction stormwater management.

In Lancaster County, Pennsylvania, the Pennsylvania Pipeline Project traverses 6.9 linear miles through the municipalities of Clay and West Cocalico and spans the Sinking Spring and Womelsdorf USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF), trout stock fisheries (TSF), and high quality (HQ) under PA

Code 25 Chapter 93 including UNT to Cocalico Creek (HQ-WWF), Cocalico Creek (HQ-WWF), Harnish Run (WWF), UNT to Harnish Run (WWF), and UNT to Little Cocalico Creek (TSF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Lancaster County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT AND ACT 167 COMPLIANCE

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Lancaster County Integrated Water Resources Plan and Pennsylvania Chapter 102 regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW. Additional permanent access roads and valve sites are not proposed in Lancaster County for the installation and operation of the pipeline.

By following the requirements of PADEP's 25 Pa Code § 102.8(n) and the Lancaster County Integrated Water Resources Plan, the Sunoco Pipeline project meets the criteria for Lancaster County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR BERKS COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Schuylkill River Watershed Act 167 Plan, the Conestoga River Watershed Act 167 Plan, and the Cocalico Creek Watershed Act 167 Plan and the Pennsylvania Pipeline Project. The pipeline will traverse through seven townships in Berks County: Brecknock, Caernarvon, Cumru, New Morgan, Robeson, South Heidelberg, and Spring Townships. Spring, Brecknock, Robeson, New Morgan, and Caernarvon Townships fall within the jurisdiction of the Schuylkill River Watershed and Conestoga River Watershed Act 167 Plans; Cumru Township falls within the jurisdiction of the Schuylkill River Watershed Act 167 Plan; and South Heidelberg and Spring Townships fall within the jurisdiction of the Cocalico Creek Watershed Act 167 Plan. The Schuylkill River Watershed Act 167 Plan was developed in June of 2007, the Conestoga River Watershed Act 167 Plan was developed in September of 2005, and the Cocalico Creek Watershed Act 167 plan was developed in March of 2003.

2.0 PROJECT DESCRIPTION

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL). The project involves the installation of approximately two parallel pipelines within a 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total limit of disturbance will be 239 acres in Berks County.

Fifty feet will be maintained as permanent ROW. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve the installation 2 permanent access roads, 2 block valve pads, a pump station expansion, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration/post construction stormwater management.

In Berks County, Pennsylvania, the Pennsylvania Pipeline Project traverses 21.2 linear miles through the municipalities of Brecknock, Caernarvon, Cumru, New Morgan, Robeson, South Heidelberg, and Spring and spans the Reading, Sinking Spring, Morgantown, Terre Hill, Elverson, and Washington USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and

forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF), trout stock fisheries (TSF), cold water fisheries (CWF), high quality (HQ), and exceptional value (EV) under PA Code 25 Chapter 93 including UNT to Cocalico Creek (TSF), Cacoosing Creek (CWF), Little Muddy Creek (TSF), UNT to Cacoosing Creek (CWF), UNT to Wyomissing Creek (HQ-CWF), Wyomissing Creek (HQ-CWF), UNT to Allegheny Creek (CWF), Allegheny Creek (CWF), Muddy Creek (HQ-TSF), UNT to Muddy Creek (HQ-TSF), Hay Creek (EV), UNT to Hay Creek (EV), UNT to Conestoga River (WWF), UNT to East Branch Conestoga River (WWF), and East Branch Conestoga River (WWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Berks County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Schuylkill River, Conestoga River Watershed Act 167 Plans and PADEP Chapter 102 guidelines. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume within the proposed pipeline ROW.

There will be 3 permanent block valve pads and associated access roads installed at Montello Station, Wyomissing Road, and Morgantown Road. In addition, there will be one pump station expansion at the existing SPLP Beckersville Station. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the gravel pads and access roads that drain to the nearest receiving watercourse. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing infiltration berms, infiltration trenches, and slow release trenches downslope of the proposed access roads or pads. The infiltration berms, infiltration trenches, and slow release trenches will be constructed in accordance with the PA Stormwater BMP Manual. The proposed infiltration berms, infiltration trenches, and slow release trenches have been sized to provide at least the required volume storage to eliminate the different between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

The proposed block valve pad and access road at Wyomissing Road is proposed to be vegetated to minimize ROW impacts. As a result, stormwater runoff rate and volume requirements are met at this site per PADEP's 25 Pa Code § 102.8(n).

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. Maintenance of the infiltration berms, infiltration trenches, and slow release trench areas will consist of biannual inspections. Additional soil and compost mixture will be applied to the infiltration berms, infiltration trench, and slow release trench areas as needed to maintain an adequate thickness to meet the volume storage capacity, and to ensure vegetation is established. All stormwater management BMPs shall be inspected regularly to ensure it is infiltrating properly and not clogged with sediment. Vegetation over the berms shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

Berks County does not have a county-wide Act 167 Plan adopted. However, both townships where permanent block valve pads and associated access roads are located have enacted the Schuylkill River Act 167 Plan. According to the management plan, the Montello block valve site is not located in one of the stormwater management districts that has rate release requirements. However, the Morgantown

block valve site is located in Management District A. The rate requirements of that district are such that the proposed 2-year storm should be reduced to the 1-year storm. All other proposed storm events should be reduced to their original existing condition. By designing in accordance with PADEP's Stormwater BMP Manual, the requirements outlined in the Schuylkill River Watershed's Act 167 Plan will be fulfilled.

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

The recommended control guideline for peak rate control is:

- Do not increase the peak rate of discharge for the 2-year through 100-year events (at minimum); as necessary, provide additional peak rate control as required by applicable and approved Act 167 plan.
- New Morgan Township's (Morgantown Road block valve site's) approved Act 167 Plan establishes release rate requirements in post-construction conditions to be at or better than the 1-year storm event. All other storm events should be at or better than their pre-construction release rate.

The proposed permanent facilities will utilize infiltration berms, infiltration trenches and slow release trenches to manage the two-year through 100-year peak rate increases. All proposed permanent facilities meet the associated release rate requirements. These BMPs will also help to increase the time of concentration for the drainage area encompassing the block valve sites.

The pipeline ROW will be maintained in meadow condition. Therefore, peak discharge rate standards do not apply.

Volume Controls

Use of Control Guideline 1 is recommended where site conditions offer the opportunity to reduce the increase in runoff volume as follows:

- Do not increase the post-development total runoff volume for all storms equal to or less than the two-year/24-hour event;
- Existing (pre-development) non-forested pervious areas must be considered meadow (good condition) or its equivalent; and
- 20 percent of existing impervious area, when present, shall be considered meadow (good condition) or its equivalent.

Stormwater BMPs have been proposed at each of the block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met for block valves.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and

maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads and block valve sites.

Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

By following the requirements of PADEP's 25 Pa Code § 102.8(n) and Schuylkill River Watershed's approved Act 167 Stormwater Management Plan, the Sunoco Pipeline project meets the criteria for Berks County.